



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0524; Product Identifier 2019-NM-081-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 747-400 and 747-400F series airplanes. This proposed AD was prompted by an evaluation that determined fatigue cracks could develop in the underwing longerons. This proposed AD would require repetitive inspections of the underwing longerons and certain fuselage skins for any crack, and applicable on-condition actions. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0524.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0524; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the regulatory evaluation, any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Eric Lin, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3523; email: eric.lin@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2019-0524; Product Identifier 2019-NM-081-AD” at the beginning of your comments. The FAA specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. The FAA will consider all comments received by the closing date and may amend this NPRM because of those comments.

The FAA will post all comments received, without change, to <http://www.regulations.gov>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this proposed AD.

Discussion

The FAA received reports of fatigue cracks in the underwing longerons of multiple Model 777 airplanes. A cross-model evaluation determined that Model 747-400 and 747-400F series airplanes are subject to the same unsafe condition. (The FAA issued a similar AD [AD 2017-16-10, Amendment 39-18987 (82 FR 39513, August 21, 2017)] for Model 777 airplanes.) The cracks initiate at the forward fastener row joining the longeron to the wing lower surface. Cracking of the forward fuselage skins was also found. Model 747-400 line numbers 1308, 1313, and 1315 through 1419 inclusive, have a similar one-piece machined design and similar stress levels as those on the Model 777 underwing longerons; however, no cracks have been reported on the Model 747-400

one-piece longerons. Cracking in an underwing longeron, if not addressed, could result in fuel leakage into the pressurized fuselage and increase the risk of a fire. Cracking in the adjacent fuselage skin could result in rapid decompression. Either condition could adversely affect the structural integrity of the airplane.

Related Service Information under 1 CFR part 51

The FAA reviewed Boeing Alert Requirements Bulletin 747-53A2900 RB, dated April 11, 2019. The service information describes procedures for repetitive detailed inspections and ultrasonic inspections of the underwing longerons and the adjacent fuselage skin, and ultrasonic and surface high frequency eddy current (HFEC) inspections of certain fuselage skins, on the left and right sides of the airplane, for any crack, and applicable on-condition actions. On-condition actions include repair.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA's Determination

The FAA is proposing this AD because the agency evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require accomplishment of the actions identified in Boeing Alert Requirements Bulletin 747-53A2900 RB, dated April 11, 2019, described previously, except for any differences identified as exceptions in the regulatory text of this proposed AD.

For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0524.

Costs of Compliance

The AD estimates that this proposed AD affects 20 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs for required actions

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Detailed inspections of the underwing longerons	2 work-hours X \$85 per hour = \$170 per inspection cycle	\$0	\$170 per inspection cycle	\$3,400 per inspection cycle
Ultrasonic and HFEC inspections of the adjacent fuselage skin	9 work-hours X \$85 per hour = \$765 per inspection cycle	\$0	\$765 per inspection cycle	\$15,300 per inspection cycle
Ultrasonic inspections of the underwing longerons	2 work-hours X \$85 per hour = \$170 per inspection cycle	\$0	\$170 per inspection cycle	\$3,400 per inspection cycle

The FAA has received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this proposed AD.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This proposed AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

The Boeing Company: Docket No. FAA-2019-0524; Product Identifier 2019-NM-081-AD.

(a) Comments Due Date

The FAA must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 747-400 and 747-400F series airplanes, certificated in any category, as identified in Boeing Alert Requirements Bulletin 747-53A2900 RB, dated April 11, 2019.

(d) Subject

Air Transport Association (ATA) of America Code 53, Fuselage.

(e) Unsafe Condition

This AD was prompted by an evaluation that determined fatigue cracks could develop in the underwing longerons. The FAA is issuing this AD to address cracks in the underwing longerons, which could result in fuel leakage into the pressurized fuselage and increase the risk of a fire, and to address cracks in the adjacent fuselage skin, which could result in rapid decompression. Either condition could adversely affect the structural integrity of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

Except as specified by paragraph (h) of this AD: At the applicable times specified in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 747-53A2900 RB, dated April 11, 2019, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 747-53A2900 RB, dated April 11, 2019.

Note 1 to paragraph (g): Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin 747-53A2900, dated April 11, 2019,

which is referred to in Boeing Alert Requirements Bulletin 747-53A2900 RB, dated April 11, 2019.

(h) Exceptions to Service Information Specifications

(1) For purposes of determining compliance with the requirements of this AD:

Where Boeing Alert Requirements Bulletin 747-53A2900 RB, dated April 11, 2019, uses the phrase “the original issue date of Requirements Bulletin 747-53A2900 RB,” this AD requires using “the effective date of this AD.”

(2) Where Boeing Alert Requirements Bulletin 747-53A2900 RB, dated April 11, 2019, specifies contacting Boeing for repair instructions: This AD requires doing the repair using a method approved in accordance with the procedures specified in paragraph (i) of this AD.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(j) Related Information

(1) For more information about this AD, contact Eric Lin, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3523; email: eric.lin@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued in Des Moines, Washington, on July 2, 2019.

Michael Kaszycki,
Acting Director,
System Oversight Division,
Aircraft Certification Service.
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